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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,578	07/11/2003	Steven P. Nally	108298533US1	3549

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EXAMINER

ALANKO, ANITA KAREN

ART UNIT PAPER NUMBER

1765

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/617,578

Applicant(s)

NALLY ET AL.

Examiner

Anita K. Alanko

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/14/05 amdt.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-25, 49-52 and 56-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-25, 49-52 and 56-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim 22 is rejected under 35 U.S.C. 102(a) as being anticipated by Canella et al (US 5,997,388).

Canella discloses a method (col.8, lines 42+) comprising etching (using a de-marking head 55 comprising a bladed mill, a sanding disk, a sanding head or similar device) at least a portion of the surface (“controlled mark removal” col.8, line 76) to remove a layer of material from the package and form a marking surface; and

cleaning residual materials (system 24, col.10, lines 27-29) from the package after terminating the etching of the package surface.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 22-23, 25, 49-50, 52, 56, 58-62 rejected under 35 U.S.C. 103(a) as being unpatentable over Canella et al (US 5,997,388) in view of Eom et al (KR 426119B).

The discussion of Canella from above is repeated here. Canella discloses etching, but does not disclose chemical etching. Eom teaches that a useful alternative technique for removing surface molding resin of a packaged semiconductor by a mechanical milling/etching method is to use a chemical etching method (see abstract, "Novelty" section). After the etching, Eom teaches to clean (last line of abstract). It would have been obvious to one with ordinary skill in the art to chemically etch and then clean to remove surface material in the method of Canella because Eom teaches that this is a useful alternative technique to mechanical removal.

Further, as to claim 23, Examiner takes official notice that HF is a conventional etchant. It would have been obvious to one with ordinary skill in the art to use HF to etch in the modified method of Canella because it is a conventional etching composition.

As to claim 25, since the modified method of Canella has controlled removal of a mark, it would have been obvious to one with ordinary skill in the art to control the depth to move undesired surface features such as blemishes, thereby obtaining a desired surface finish, because chemical etching allows for control over the rate of etching by controlling the composition, delivery and parameters of etching.

As to claim 49, Canella discloses to process several substrates (col.11, lines 38-45), but does not disclose to cut the common substrate to separate the devices from one another. It would, however, would have been obvious to do this since processing several devices at once saves time and a common substrate would provide a helpful means to handle and process a plurality of small devices at one time.

Claims 24, 51 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Canella et al (US 5,997,388) and Tsuchiko et al (JP 01-067346 A).

As to claim 24, Tsuchiko teaches that a useful technique for removing material from the surface 4 of packages 2 comprises etching 7 through a mask 5 (see abstract). Tsuchiko does not disclose to clean after etching. The discussion of Canella from above is repeated here.

It would have been obvious to one with ordinary skill in the art to clean after etching in the method of Tsuchiko because Canella teaches that this is useful to do after etching.

### ***Response to Amendment***

Applicants arguments filed 11/14/05 are persuasive. The rejection over Martin is withdrawn since Martin is directed to decapsulating for test and repair – not to form a mark surface. The rejection using Carson is withdrawn because of applicant's statement that Carson and the instant invention were commonly owned at the time the invention was made.

The claims are now rejected over Canella et al, Eom et al and Tsuchiko et al. As broadly interpreted, Canella discloses etching since the claims are not limited to chemical etching. Eom

Art Unit: 1765

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is newly cited to teach that chemical etching to remove packaging material from microelectronic devices is a useful technique as discussed in the rejection above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mardi is cited for teaching removing marks with a laser. Samonides is cited for etching to form marks on printed circuit boards. Kwon et al (KR 97008549 A) is cited for removing marks from a semiconductor package.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 2:30 pm (Wed until 11:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Anita K. Alanko*  
Anita K Alanko

Art Unit: 1765

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Primary Examiner  
Art Unit 1765